

ABSTRACT

Disclosed is a luminescent material for scintillators, which comprises a single crystal of an Yb-containing mixed-crystal oxide having a base crystal consisting of a garnet single crystal or a borate single crystal. The oxide single crystal has a composition represented by either one selected from the group consisting of $R_3Al_5O_{12}$, $R_3Ga_5O_{12}$, $Li_6R(BO_3)_3$, $Li_3R_2Ga_3O_{12}$ and $Gd_3R_2Ga_3O_{12}$, wherein R is a mixture of Yb and either one of Y, Gd and Lu. The Yb as an element capable of forming an optically active state called CTS together with a neighboring negative ion (oxygen ion).